

## CLAIMS

1. A gas seal structure comprising:
  - a main seal means that is made of rubber and is disposed between two seal surfaces;
  - a sub-seal means that is made of resin and is disposed between the two seal surfaces, the sub-seal means being located closer to a higher-pressure side region than the main seal means and being provided with a concave groove; and
  - a pressure variation reducing means that is disposed between the main seal means and the sub-seal means and has a variation reducing space connected to a gap formed between the two seal surfaces.
2. The gas seal structure according to claim 1, wherein the sub-seal means is disposed such that the concave groove opens toward the higher-pressure side region.
3. The gas seal structure according to claim 1, wherein the sub-seal means is disposed such that the concave groove opens toward a lower-pressure side region.